Journal of Cosmetic Dermatology, **14**, 167–171

Evaluation of autoimmune thyroid disease in melasma

Majid Rostami Mogaddam, MD,[1] Manouchehr Iranparvar Alamdari, MD,[2] Nasrollah Maleki, MD,[3] Nastaran Safavi Ardabili, MD,[4] & Selma Abedkouhi, MD[1]

[1]*Department of Dermatology, Imam Khomeini Hospital, Ardabil University of Medical Sciences, Ardabil, Iran*
[2]*Department of Internal Medicine, Imam Khomeini Hospital, Ardabil University of Medical Sciences, Ardabil, Iran*
[3]*The Persian Gulf Marine Medicine Biotechnology Research Center, Department of Endocrinology, Bushehr University of Medical Sciences, Bushehr, Iran*
[4]*Department of Midwifery, Ardabil Branch, Islamic Azad University, Ardabil, Iran*

Summary

Melasma is one of the most frequently acquired hyperpigmentation disorders clinically characterized by symmetrical brown patches on sun-exposed areas. To date, few studies have been conducted about the relationship between thyroid autoimmunity and melasma. To evaluate the thyroid dysfunction and autoimmunity in nonpregnant women with melasma. A total of 70 women with melasma and 70 age-matched healthy women with no history of melasma were enrolled in the study. We studied the thyroid hormone profile in both groups. The statistical analysis was performed using SPSS software. Patients with melasma had 18.5% frequency of thyroid disorders, and 15.7% had positive anti-TPO, while subjects from the control group had a 4.3% frequency of thyroid abnormalities, and only 5.7% had positive anti-TPO. There was a significantly higher prevalence of thyroid dysfunction in women with melasma compared with control group ($P = 0.008$). This study suggests that there is a relationship between thyroid autoimmunity and melasma. However, to make recommendations on screening for thyroid disease in patients with melasma, future research of good methodological quality is needed.

Keywords: melasma, thyroid function test, autoimmunity

Introduction

Melasma, also known as chloasma, is a common, acquired disorder, characterized by symmetric, hyperpigmented patches with an irregular outline that affects sun-exposed areas of skin, most commonly the face. It is most prevalent among young to middle-aged women who are Hispanic, Asian, or of African or Middle Eastern descent, that is darker skin phototypes.[1] The precise pathogenesis of melasma has not been determined. However, multiple factors are likely to be implicated in its etiopathogenesis, including pregnancy, combined oral contraceptive pills (OCPs), genetics factors, sun exposure, use of cosmetic products, thyroid dysfunction, and antiseizure medications.[1–4] Melasma in men shares the same clinico-histologic characteristics as in women, but hormonal factors do not seem to play major significant role;[5] it is not clear whether hormonal factors play a role in men.[5,6]

The key role of UV radiation is supported by the fading of lesions during winter months and the distribution pattern of melasma, with the involvement of sun-exposed sites and sparing of sites such as the philtrum. Compared to the uninvolved adjacent skin, increased melanin deposition is observed in all layers of the epidermis. An increased number of melanin-containing

Correspondence: Nasrollah Maleki, Specialist of Internal Medicine, The Persian Gulf Marine Medicine Biotechnology Research Center, Department of Endocrinology, Bushehr University of Medical Sciences, Bushehr, Iran.
E-mail: malekinasrollah@yahoo.com

Accepted for publication February 4, 2015